RACES AND GAMES OF SKILL

RACES AND GAMES OF SKILL

Races :- A contest of speed in running ,riding,driving,sailing or rowing is called a Race

Race Course :-The ground or path on which contests are made is called a race course

STARTING POINT :-The point from which a race begins is called starting point.

Winning point or goal:-The point set to bound a race is called a winning point.

Dead Heat Race:-If all the persons contesting a race reach the goal exactly at the same time,then the race is called a dead heat race.

Start:-suppose A and B are two contestants in a race .If before the start of the race,A is at the satrtint point and B is ahead of A by 12 metres.
Then we say that "A gives B a start 12 metres.

->To cover a race of 100metres in this case,A will have to cover 100m while B

will have to cover 88m=(100-12)

->In a100m race 'A can give B 12m' or 'A can give B a start of 12m' or 'A beats
B by 12m'means that while A runs 100m B runs 88m.

GAMES:- A game of 100m,means that the person among the contestants who
scores 100 points first is the winner.

If A scores 100 points while B scores only 80 points then we say that 'A can give
B 20 points'.

RACES AND GAMES OF SKILL

PROBLEMS :- 1) In a 1 km race,A beats B by 28 m or 7sec.Find A's time over the course? Sol: B covers 28 m in 7sec so,B's time over the course = 7/28 *1000 =250 sec A's time over the course =250-7 =243 sec = 4min ,3 sec.

2) A runs 1 3/4 times as fast as B.If A gives B a start of 84 m,how far must be winning post be so that A and B might reach it at the same time ? Sol: Ratio of rates of A:B =7/4 :1 =7 :4 In a game of 7 m A gains 3m over B. 3m are gained by A in a race of 7m 84 m are gained by A in a race of 7*84/3 =196 m Winning post must be 196m away from the starting point.

3)A can run 1km in 3 min ,10sec and B can cover same distance in 3 min 20 sec. By what distance A beat B? Sol: clearly A beats B by 10 sec. Distance covered by B in 10 sec =1000/200 *10 =50 m A beats B by 50 metres.

4) In a 100m race,A runs at 8km per hour.If A gives b a start of 4 m and still beats him by 15 sec,what is the speed of B? Sol: 8000 m -------60*60 sec 100m ------- 60*60*1000/8000 =45 sec. Time taken by A to cover 100m =45 sec. B covers 100-4 m =96 min 45 sec =60 sec B's speed =96 *60*60/60*1000 =5.76 km/hr

5) A and B take part in 100m race .A runs at 5km per hour. A gives B a start of 8 m and still beats him by 8 sec. What is the speed of B? Sol : A'speed = 5km/hr =5*5/18 =25/18 m/s Time taken by A to cover 100m =100*18/25 =7.2 sec Time taken by A to cover 92m = 72+8 =80 sec B's speed =92*18/80*5 = 4.14 kmph.

6) A runs 1 2/3 times as fast as B.If A gives B a start of 80 m, how far must the winning post be so that A and B might reach if at the same time? Sol: Ratio of the speed of A and B =5/3 :1 Thus in a race of 5m ,A gains 2m over B 2m are gained by in a race of 5m 80 m will be gained by A in a race of 5/2* 80 =200 m

7) A,B and C are three contestans in a kmrace .If A can give B a start of 40 m and A can give C a start of 64 m,how amny metres start can b give C? Sol: A covers 100m,B covers (1000-40) =960 m C covers 1000-64 m or 936m when B covers 960 m,C covers 936 m when B covers 1000 m,C covers 936*1000/960 m =975 m B can give C a start of 1000-975 or 25 m.

8) In a 100m race,A covers the distance in 36 sec and B in 45 sec.In this race A beats B by? Sol: Distance covered by B in 9secs =100*9/45 =20 m A beats B by 20m

9) In a 200 m race A beats B by 35m or 7 sec.What is the A's time over the course? Sol: B runs 35 m in 7sec. B covers 200m in =7*200/35 = 40 sec. B's time over the course =40 sec A's time over the course =40-7 =33 sec.

10) In a 300 m race A beats B by 22.5 m or 6 sec.What is the B's time over the course? Sol: B runs 22.5 m in 6sec. B runs 300m in =6*300*2/45 =80 sec. B's time over the course =80 sec.

11) A can run 22.5 m while B runs 25 m.In a kilometre race B beats A by? Sol: B runs 25 m ,A runs 45/2 m B runs 1000 A runs = 1000*45/2*25 =900m B beats A by 100m

12)In a 500 m race, the ratio of the speeds of two contestants A and B is 3:4.A has a start of 140 m.Then ,A win by B? Sol: The speeds of A and B =3:4 To reach the winning post A will have to cover a distance of 500-140 m i.e 360 m while A covers 3m ,b covers 4m A covers 360m B covers 4/3*360=480m Thus when A reaches the winning post, b covers 480m and therefore remains 20m behind. A wins by 20m.

13) In a 100m race,A can beat B by 25 m and B can beat c by 4m.In the same race A can beat C by/ Sol: If A:B =100 :75 B :C=100 :96 then A :C =A/B*B/C=100/75* 100/96 = 100/72 A beats C by 100 -72 m=28 m

14) In a 100 race,A can give B 10 mand C 28 m.In the same race B can give C? Sol: A:B =100 :90 A :C=100 :72 B:C =B/A *A/C =90/100*100/72 =90/72 When B runs 90 C runs 72 when B runs 100 C runs =72*100/90 B beats C by 20m

15) In a 100m race ,A beats B by 10 m and C by 13 m.In the race of 180m. B will

beat c by? Sol :A : B =100 :90 A/B =100/90 A/C =100/87 B/C =B/A *A/C =90 /87 When B runs 90m C runs 87 When B runs 180 m then C runs =87 *180/90 B beats C by 180-174= 6m

16) In a race of 200 m, A can beat B by 31 m and C by 18m.In arace of 350 m, C will beat B by? Sol : In a race of 200 m A :B =200:169 A :C =200 :182 C/B =C/A*A/B =182/200*200/169 When C runs 182 m B runs 169 when C runs 350 m B runs =350*169/182 =325m

17) In agame of 100 points A can give B 20 points and C 28 points then B can give C? In a game of 100 points. A :B =100 :80 A :C =100 :72 B/C=B/A*A/C =80/100*100/72 = 80/72 when B runs 80m C runs 72 when B runs 100m C runs =100*72/80 =90 B can give C 10 points in agame of 100.

18)At a game of billiards,A can give B 15 points in 60 and A can give C 20 points in60.How amny points can B give C in a game of 90? Sol: A:B =60:45 A:C =60:40 B/C =B/A*A/C =45/60*60/40 =90/80 B can give C 10 points in agame of 90.

19) in agame of 80 points,A can give B 5 points and C 15 points.then how many points B can give C in agame of 60? Sol: A :B =80 :75 A :C =80:65 B/C=B/A*A/C = 75/80*80/65 =15/13 B:C =60:52.